



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

August 25, 2003

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

TO: Interested Parties / Applicant

RE: ADM Grain Company / MSOP 017-17216-00017

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER.dot 8/11/03



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**NEW SOURCE CONSTRUCTION PERMIT
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR QUALITY**

**ADM Grain Company - Logansport Terminal
2626 South 275 West
Logansport, Indiana 46947**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 017-17216-00017	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: August 25, 2003 Expiration Date: August 25, 2008

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary country grain elevator.

Authorized Individual: Dennis C. Garceau, V.P. Manufacturing and Technical Services
Source Address: 2626 South 275 West, Logansport, Indiana 46947
Mailing Address: 4666 Faries Parkway, Decatur, Illinois 62526
General Source Phone: 217-451-2476
SIC Code: 5153
County Location: Cass
Source Location Status: Attainment for all criteria pollutants
Source Status: Minor Source Operating Permit
Minor Source, under PSD Rules;
Minor Source, Section 112 of the Clean Air Act

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (a) One (1) rail pit and screw auger reclaim system, rated at 5,000 bushels per hour;
- (b) One (1) truck loadout (located over Pit No. 3), with a maximum capacity of 7,000 bushels per hour;
- (c) Two (2) side draw truck loadout spouts;
- (d) One (1) rail loadout with telescoping spout, enclosed by shed;
- (e) Thirty-seven (37) concrete storage silos, with a maximum total storage capacity of 1,199,192 bushels;
- (f) Six (6) steel bins, with a maximum total storage capacity of 2,747,768 bushels;
- (g) Nine (9) belts serving the steel bins, each with a maximum capacity of 20,000 bushels per hour;
- (h) Three (3) temporary storage piles with conveyors, with a total maximum storage capacity of 5,200,000 bushels per year;
- (i) Two (2) natural gas-fired column grain dryers, identified as Dryer #1 and Dryer #2, each rated at 20.9 million British thermal units (MMBtu) per hour, each with a maximum capacity of processing 4,000 bushels of grain per hour;
- (j) One (1) wet leg serving Dryers #1 and #2, with a maximum capacity of 10,000 bushels per hour;

- (k) Four (4) receiving pits, identified as Pits #1 through #4, enclosed by sheds with Pits #1 and #2 controlled for particulate emissions by one (1) baghouse, identified as F1, exhausting through one (1) stack (F1), and Pits #3 and #4 controlled for particulate emissions by one (1) baghouse, identified as F2, exhausting through one (1) stack (F2);
- (l) One (1) enclosed receiving conveyor, serving Pits #1 and #2, with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F1, exhausting through one (1) stack (F1); (This unit replaces one (1) 20,000 bushels per hour open receiving conveyor)
- (m) One (1) receiving leg, serving Pits #1 and #2, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 30,000 bushels per hour receiving leg)
- (n) One (1) receiving leg, serving Pit #3, with a maximum capacity of 18,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 15,000 bushels per hour receiving leg)
- (o) One (1) receiving leg, serving Pit #4, with a maximum capacity of 18,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 15,000 bushels per hour receiving leg)
- (p) Two (2) stationary enclosed cleaners, each with a maximum capacity of 22,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (These units replace one (1) 30,000 bushels per hour mechanical cleaner and scalper)
- (q) Two (2) enclosed conveyors, serving the concrete silos, each with a maximum capacity of 35,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (These units replace two (2) 20,000 bushels per hour open conveyors, serving the concrete silos)
- (r) One (1) enclosed conveyor, serving the concrete silos, with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 20,000 bushels per hour open conveyor, serving the concrete silos)
- (s) One (1) enclosed distributor, serving the concrete silos, with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 20,000 bushels per hour enclosed distributor, serving the concrete silos)
- (t) Two (2) enclosed distributors, serving the concrete silos, each with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (These units replace two (2) 35,000 bushels per hour enclosed distributors, serving the concrete silos)
- (u) One (1) enclosed reclaim conveyor, serving the concrete silos, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 40,000 bushels per hour open reclaim conveyor, serving the concrete silos)

- (v) One (1) dry leg, serving Dryers #1 and #2, with a maximum capacity of 18,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 15,000 bushels per hour dry leg, serving Dryers #1 and #2)
- (w) One (1) shipping leg, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 30,000 bushels per hour shipping leg)
- (x) One (1) enclosed shipping conveyor, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 40,000 bushels per hour open shipping conveyor)
- (y) One (1) enclosed reclaim conveyor, serving the steel bins, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F4, exhausting through one (1) stack (F4); (This unit replaces one (1) 25,000 bushels per hour open reclaim conveyor, serving the steel bins)
- (z) One (1) baghouse, identified as F5, which receives collected dust from baghouses F2 and F3, exhausting through one (1) stack (F5).
- (aa) Unpaved roads and parking lots with public access.

The source has a maximum throughput of 25,000,000 bushels per year, therefore, the maximum throughput to grain receiving, grain shipping, grain drying, and grain cleaning is 25,000,000 bushels of grain per year. The headhouse and internal handling operations have a maximum throughput of 2 times the maximum grain throughput because the grain is typically handled more than once.

SECTION B GENERAL CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Permit Term and Renewal [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5]

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions of this permit do not affect the expiration date.

The Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date. If a timely and sufficient permit application for a renewal has been made, this permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

B.6 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.7 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

- (2) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2-6.1-6 and an Operation Permit Validation Letter is issued.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).

B.8 NSPS Reporting Requirement

Pursuant to the New Source Performance Standards (NSPS), Part 60.300 - 60.304, Subpart DD, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

- (a) Commencement of construction date (no later than 30 days after such date);
- (b) Actual start-up date (within 15 days after such date); and
- (c) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

The application and enforcement of these standards have been delegated to the IDEM, OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.

B.9 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Branch, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

B.10 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each emissions unit:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall implement the PMPs, including any required record keeping, as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.
- (c) A copy of the PMP's shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMP whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMP does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) Permit revisions are governed by the requirements of 326 IAC 2-6.1-6.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]
- (d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

**B.12 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2]
[IC 13-30-3-1]**

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.13 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

B.14 Annual Fee Payment [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.5 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

Testing Requirements

C.6 Performance Testing [326 IAC 3-6]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date.

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.7 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

Compliance Monitoring Requirements

C.8 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.9 Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.10 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) Whenever a condition in this permit requires the measurement of total static pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a temperature or flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

C.11 Compliance Response Plan - Preparation and Implementation

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
 - (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
 - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.

- (4) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
 - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.12 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected emissions unit while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (a) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.13 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.14 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented when operation begins.

C.15 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, any quarterly report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (a) One (1) rail pit and screw auger reclaim system, rated at 5,000 bushels per hour;
- (b) One (1) truck loadout (located over Pit No. 3), with a maximum capacity of 7,000 bushels per hour;
- (c) Two (2) side draw truck loadout spouts;
- (d) One (1) rail loadout with telescoping spout, enclosed by shed;
- (e) Thirty-seven (37) concrete storage silos, with a maximum total storage capacity of 1,199,192 bushels;
- (f) Six (6) steel bins, with a maximum total storage capacity of 2,747,768 bushels;
- (g) Nine (9) belts serving the steel bins, each with a maximum capacity of 20,000 bushels per hour;
- (h) Three (3) temporary storage piles with conveyors, with a total maximum storage capacity of 5,200,000 bushels per year;
- (i) Two (2) natural gas-fired column grain dryers, identified as Dryer #1 and Dryer #2, each rated at 20.9 million British thermal units (MMBtu) per hour, each with a maximum capacity of processing 4,000 bushels of grain per hour;
- (j) One (1) wet leg serving Dryers #1 and #2, with a maximum capacity of 10,000 bushels per hour;
- (k) Four (4) receiving pits, identified as Pits #1 through #4, enclosed by sheds with Pits #1 and #2 controlled for particulate emissions by one (1) baghouse, identified as F1, exhausting through one (1) stack (F1), and Pits #3 and #4 controlled for particulate emissions by one (1) baghouse, identified as F2, exhausting through one (1) stack (F2);
- (l) One (1) enclosed receiving conveyor, serving Pits #1 and #2, with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F1, exhausting through one (1) stack (F1); (This unit replaces one (1) 20,000 bushels per hour open receiving conveyor)
- (m) One (1) receiving leg, serving Pits #1 and #2, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 30,000 bushels per hour receiving leg)
- (n) One (1) receiving leg, serving Pit #3, with a maximum capacity of 18,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 15,000 bushels per hour receiving leg)
- (o) One (1) receiving leg, serving Pit #4, with a maximum capacity of 18,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 15,000 bushels per hour receiving leg)
- (p) Two (2) stationary enclosed cleaners, each with a maximum capacity of 22,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (These units replace one (1) 30,000 bushels per hour mechanical cleaner and scalper)
- (q) Two (2) enclosed conveyors, serving the concrete silos, each with a maximum capacity of 35,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (These units replace two (2) 20,000 bushels per hour open conveyors, serving the concrete silos)
- (r) One (1) enclosed conveyor, serving the concrete silos, with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 20,000 bushels per hour open conveyor, serving the concrete silos)
- (s) One (1) enclosed distributor, serving the concrete silos, with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 20,000 bushels per hour enclosed distributor, serving the concrete silos)

- (t) Two (2) enclosed distributors, serving the concrete silos, each with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (These units replace two (2) 35,000 bushels per hour enclosed distributors, serving the concrete silos)
- (u) One (1) enclosed reclaim conveyor, serving the concrete silos, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 40,000 bushels per hour open reclaim conveyor, serving the concrete silos)
- (v) One (1) dry leg, serving Dryers #1 and #2, with a maximum capacity of 18,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 15,000 bushels per hour dry leg, serving Dryers #1 and #2)
- (w) One (1) shipping leg, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 30,000 bushels per hour shipping leg)
- (x) One (1) enclosed shipping conveyor, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 40,000 bushels per hour open shipping conveyor)
- (y) One (1) enclosed reclaim conveyor, serving the steel bins, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F4, exhausting through one (1) stack (F4); (This unit replaces one (1) 25,000 bushels per hour open reclaim conveyor, serving the steel bins)
- (z) One (1) baghouse, identified as F5, which receives collected dust from baghouses F2 and F3, exhausting through one (1) stack (F5).
- (aa) Unpaved roads and parking lots with public access.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 General Provisions Relating to NSPS [326 IAC 12-1][40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the affected facilities described in this section except when otherwise specified in 40 CFR Part 60, Subpart DD.

D.1.2 Particulate matter (PM) [40 CFR 60.302, Subpart DD]

Pursuant to the New Source Performance Standards, 326 IAC 12 (40 CFR 60.300 to 60.304, Subpart DD), the truck and railcar unloading and loading stations and all grain handling operations, which includes headhouse and internal handling and grain cleaning, shall comply with the following:

- (a) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the Permittee shall not cause to be discharged into the atmosphere from any affected facility, except a grain dryer, any process emission which:
 - (1) Contains particulate matter in excess of 0.023 g/dscm (ca. 0.01 gr/dscf).
 - (2) Exhibits greater than 0 percent opacity.

This emission limitation is equivalent to the following emission rates:

- (1) 2.14 pounds per hour from baghouse F1 based on an exhaust rate of 25,000 acfm and an exhaust temperature of 68 degrees Fahrenheit.

- (2) 1.89 pounds per hour from baghouse F2 based on an exhaust rate of 22,000 acfm and an exhaust temperature of 68 degrees Fahrenheit.
 - (3) 2.31 pounds per hour from baghouse F3 based on an exhaust rate of 27,000 acfm and an exhaust temperature of 68 degrees Fahrenheit.
 - (4) 0.86 pound per hour from baghouse F4 based on an exhaust rate of 10,000 acfm and an exhaust temperature of 68 degrees Fahrenheit.
 - (5) 0.06 pound per hour from baghouse F5 based on an exhaust rate of 700 acfm and an exhaust temperature of 68 degrees Fahrenheit.
- (b) On and after the 60th day of achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, the Permittee shall not cause to be discharged into the atmosphere any fugitive emission from:
- (1) Any individual truck unloading station, railcar unloading station, or railcar loading station, which exhibits greater than 5 percent opacity.
 - (2) Any grain handling operation which exhibits greater than 0 percent opacity.
 - (3) Any truck loading station which exhibits greater than 10 percent opacity.
 - (4) Any barge or ship loading station which exhibits greater than 20 percent opacity.

D.1.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the facilities listed below shall be limited as follows:

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Emission Unit	Process Weight Rate (tons per hour)	Allowable Particulate Emissions (lb/hr)
Grain Receiving		
Rail pit and screw auger reclaim system	145	55.09
Truck loadout (located over Pit No. 3)	203	58.67
Headhouse and Internal Handling		
Nine (9) belts serving the steel bins	580 each	70.75 each
One (1) wet leg serving Dryers #1 and #2	290	62.62
Grain Drying		

Emission Unit	Process Weight Rate (tons per hour)	Allowable Particulate Emissions (lb/hr)
Dryer #1	116	52.78
Dryer #2	116	52.78

D.1.4 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11][40 CFR 60.303]

(a) Within 60 days after achieving the maximum production rate at which the affected facilities will be operated, but not later than 180 days after initial startup, the Permittee shall determine compliance with the particulate matter standards in 40 CFR 60.302, Subpart DD, as follows:

- (1) Method 5 shall be used to determine the particulate matter concentration and the volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 1.70 dscm (60 dscf). The probe and filter holder shall be operated without heaters.
- (2) Method 2 shall be used to determine the ventilation volumetric flow rate.
- (3) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

Affected facilities include the truck and railcar unloading and loading stations and all grain handling operations, which includes headhouse and internal handling and grain cleaning.

(b) The Permittee may use the following as alternatives to the reference methods and procedures specified above:

- (1) For Method 5, Method 17 may be used.

This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.6 Particulate Control

In order to comply with condition D.1.2, the baghouses (F1 through F5) for particulate control shall be in operation and control emissions from the receiving Pits #1 through #4, the receiving conveyor serving Pits #1 and #2, the receiving legs serving Pits #1 through #4, the grain cleaning, and the internal handling operations at all times that these facilities are in operation.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.7 Visible Emissions Notations

(a) Visible emission notations of the stack exhausts for baghouses F1 through F5 shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

D.1.8 Parametric Monitoring

The Permittee shall record the total static pressure drop across each of the baghouses used in conjunction with the receiving Pits #1 through #4, the receiving conveyor serving Pits #1 and #2, the receiving legs serving Pits #1 through #4, the grain cleaning, and the internal handling operations, at least once per shift when the receiving Pits #1 through #4, the receiving conveyor serving Pits #1 and #2, the receiving legs serving Pits #1 through #4, the grain cleaning, and the internal handling operations are in operation when venting to the atmosphere. When for any one reading, the pressure drop across any one (1) of the baghouses is outside the normal range of 1.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation and Implementation. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.9 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the receiving Pits #1 through #4, the receiving conveyor serving Pits #1 and #2, the receiving legs serving Pits #1 through #4, the grain cleaning, and the internal handling operations when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

D.1.10 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.
- (b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.11 Record Keeping Requirements

- (a) To document compliance with Condition D.1.7, the Permittee shall maintain records of visible emission notations of the stack exhausts for baghouses F1 through F5 once per shift.
- (b) To document compliance with Condition D.1.8, the Permittee shall maintain records once per shift of the total static pressure drop during normal operation when venting to the atmosphere.
- (c) To document compliance with Condition D.1.9, the Permittee shall maintain records of the results of the inspections required under Condition D.1.9 and the dates the vents are redirected.
- (d) To document compliance with Condition D.1.4, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	ADM Grain Company - Logansport Terminal
Address:	2626 South 275 West
City:	Logansport, Indiana 46947
Phone #:	217-451-2476
MSOP #:	017-17216-00017

I hereby certify that ADM Grain Company - Logansport Terminal is

☒ still in operation.

☐ no longer in operation.

I hereby certify that ADM Grain Company - Logansport Terminal is

☒ in compliance with the requirements of MSOP 017-17216-00017.

☐ not in compliance with the requirements of MSOP 017-17216-00017.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY FAX NUMBER - 317 233-5967

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: ADM Grain Company - Logansport Terminal _____ PHONE NO. (217) 451-2476 _____
LOCATION: (CITY AND COUNTY) Logansport, Indiana, Cass County _____
PERMIT NO. 017-17216 _____ AFS PLANT ID: 017-00017 _____ AFS POINT ID: _____ INSP: Dave Rice
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/19____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/19____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Mail to: Permit Administration & Development Section
Office Of Air Quality
100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015

ADM Grain Company
4666 Faries Parkway
Decatur, Illinois 62526

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____.
(Title) (Company Name)
3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make
these representations on behalf of _____.
(Company Name)
4. I hereby certify that ADM Grain Company - Logansport Terminal, 2626 South 275 West, Logansport, Indiana 46947, completed construction of the new grain handling and grain cleaning equipment at the existing grain elevator on _____ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on April 30, 2003 and as permitted pursuant to New Source Construction Permit and Minor Source Operating Permit No. 017-17216, Plant ID No. 017-00017 issued on _____.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana on
this _____ day of _____, 20 _____.

My Commission expires: _____

Signature

Name (typed or printed)

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Minor Source Operating Permit

Source Name: ADM Grain Company - Logansport Terminal
Source Location: 2626 South 275 West, Logansport, Indiana 46947
County: Cass
SIC Code: 5153
Operation Permit No.: 017-17216-00017
Permit Reviewer: Trish Earls/EVP

On July 17, 2003, the Office of Air Quality (OAQ) had a notice published in the Pharos Tribune, Logansport, Indiana, stating that ADM Grain Company - Logansport Terminal had applied for a permit to operate a country grain elevator with baghouses as air pollution control. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On August 14, 2003, Amy Clyde of ADM Grain Company - Logansport Terminal, submitted comments on the proposed permit. A summary of the comment and response is below:

Comment #1

ADM would like to request a correction. In Section D.1.8 of the permit, the normal range for the pressure drop is listed as being between 2.0 and 5.0 inches of water. The facility has indicated that this is not accurate, as the baghouses operate effectively below and above these levels. For example, after replacement of the bags and depending on whether the baghouse has been somewhat oversized for the job, the pressure drop can be below 2 inches of water and the baghouse will be operating as designed. In addition, the facility indicated that the baghouse operates as designed up to 8 inches of water. In consideration of this information, ADM believes it is appropriate that the normal pressure drop range listed in Section D.1.8 be changed to indicate a range of 1.0 to 8.0 inches of water.

Response #1

Condition D.1.8 of the permit is revised to read as follows:

D.1.8 Parametric Monitoring

The Permittee shall record the total static pressure drop across each of the baghouses used in conjunction with the receiving Pits #1 through #4, the receiving conveyor serving Pits #1 and #2, the receiving legs serving Pits #1 through #4, the grain cleaning, and the internal handling operations, at least once per shift when the receiving Pits #1 through #4, the receiving conveyor serving Pits #1 and #2, the receiving legs serving Pits #1 through #4, the grain cleaning, and the internal handling operations are in operation when venting to the atmosphere. When for any one reading, the pressure drop across any one (1) of the baghouses is outside the normal range of ~~2.0~~ **1.0** and ~~5.0~~ **8.0** inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation and Implementation. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a New Source Construction and Minor Source Operating Permit

Source Background and Description

Source Name: ADM Grain Company, a Subsidiary of Archer Daniels Midland Co.
Source Location: 2626 South 275 West, Logansport, Indiana 46947
County: Cass
SIC Code: 5153
Operation Permit No.: 017-17216-00017
Permit Reviewer: Trish Earls/EVP

The Office of Air Quality (OAQ) has reviewed an application from ADM Grain Company relating to the construction and operation of a country grain elevator.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) rail pit and screw auger reclaim system, rated at 5,000 bushels per hour;
- (b) One (1) truck loadout (located over Pit No. 3), with a maximum capacity of 7,000 bushels per hour;
- (c) Two (2) side draw truck loadout spouts;
- (d) One (1) rail loadout with telescoping spout, enclosed by shed;
- (e) Thirty-seven (37) concrete storage silos, with a maximum total storage capacity of 1,199,192 bushels;
- (f) Six (6) steel bins, with a maximum total storage capacity of 2,747,768 bushels;
- (g) Nine (9) belts serving the steel bins, each with a maximum capacity of 20,000 bushels per hour;
- (h) Three (3) temporary storage piles with conveyors, with a total maximum storage capacity of 5,200,000 bushels per year;
- (i) Two (2) natural gas-fired column grain dryers, identified as Dryer #1 and Dryer #2, each rated at 20.9 million British thermal units (MMBtu) per hour, each with a maximum capacity of processing 4,000 bushels of grain per hour;
- (j) One (1) wet leg serving Dryers #1 and #2, with a maximum capacity of 10,000 bushels per hour;

- (k) Four (4) receiving pits, identified as Pits #1 through #4, enclosed by sheds with Pits #1 and #2 controlled for particulate emissions by one (1) baghouse, identified as F1, exhausting through one (1) stack (F1), and Pits #3 and #4 controlled for particulate emissions by one (1) baghouse, identified as F2, exhausting through one (1) stack (F2);
- (l) Unpaved roads and parking lots with public access.

The source has a maximum throughput of 25,000,000 bushels per year, therefore, the maximum throughput to grain receiving, grain shipping, grain drying, and grain cleaning is 25,000,000 bushels of grain per year. The headhouse and internal handling operations have a maximum throughput of 2 times the maximum grain throughput because the grain is typically handled more than once.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment

The application includes information relating to the construction and operation of the following equipment:

- (a) One (1) enclosed receiving conveyor, serving Pits #1 and #2, with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F1, exhausting through one (1) stack (F1); (This unit replaces one (1) 20,000 bushels per hour open receiving conveyor)
- (b) One (1) receiving leg, serving Pits #1 and #2, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 30,000 bushels per hour receiving leg)
- (c) One (1) receiving leg, serving Pit #3, with a maximum capacity of 18,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 15,000 bushels per hour receiving leg)
- (d) One (1) receiving leg, serving Pit #4, with a maximum capacity of 18,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 15,000 bushels per hour receiving leg)
- (e) Two (2) stationary enclosed cleaners, each with a maximum capacity of 22,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (These units replace one (1) 30,000 bushels per hour mechanical cleaner and scalper)
- (f) Two (2) enclosed conveyors, serving the concrete silos, each with a maximum capacity of 35,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (These units replace two (2) 20,000 bushels per hour open conveyors, serving the concrete silos)
- (g) One (1) enclosed conveyor, serving the concrete silos, with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 20,000 bushels per hour open conveyor, serving the concrete silos)

- (h) One (1) enclosed distributor, serving the concrete silos, with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 20,000 bushels per hour enclosed distributor, serving the concrete silos)
- (i) Two (2) enclosed distributors, serving the concrete silos, each with a maximum capacity of 20,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (These units replace two (2) 35,000 bushels per hour enclosed distributors, serving the concrete silos)
- (j) One (1) enclosed reclaim conveyor, serving the concrete silos, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 40,000 bushels per hour open reclaim conveyor, serving the concrete silos)
- (k) One (1) dry leg, serving Dryers #1 and #2, with a maximum capacity of 18,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 15,000 bushels per hour dry leg, serving Dryers #1 and #2)
- (l) One (1) shipping leg, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 30,000 bushels per hour shipping leg)
- (m) One (1) enclosed shipping conveyor, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F3, exhausting through one (1) stack (F3); (This unit replaces one (1) 40,000 bushels per hour open shipping conveyor)
- (n) One (1) enclosed reclaim conveyor, serving the steel bins, with a maximum capacity of 40,000 bushels per hour, with particulate emissions controlled by one (1) existing baghouse, identified as F4, exhausting through one (1) stack (F4); (This unit replaces one (1) 25,000 bushels per hour open reclaim conveyor, serving the steel bins)
- (o) One (1) baghouse, identified as F5, which receives collected dust from baghouses F2 and F3, exhausting through one (1) stack (F5).

Note: The above equipment is replacing equipment destroyed in a fire.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) OP 09-11-88-0142, issued on January 24, 1985;
- (b) OP 09-11-92-0166, issued on November 11, 1987;
- (c) OP 09-11-92-0167, issued on November 11, 1987;
- (d) OP 09-11-92-0168, issued on November 11, 1987;
- (e) OP 09-11-92-0169, issued on November 11, 1987;
- (f) CP 017-8604-00017, issued on June 19, 1998; and
- (g) Administrative Amendment No. 017-16562-00017, issued on January 15, 2003.

All conditions from previous approvals were incorporated into this permit.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
F1	Pits 1 & 2 & associated conveying	14.0	3.0	25,000	Ambient
F2	Pits 3 & 4 & associated conveying	11.0	3.25	22,000	Ambient
F3	Internal Handling	11.0	3.5	27,000	Ambient
F4	Steel bin handling	12.0	1.83	10,000	Ambient
F5	Receives from baghouses F2 and F3	225.0	6.02 x 4.03	700	Ambient

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on April 30, 2003.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (3 pages).

Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	282.44
PM-10	90.44
SO ₂	0.11
VOC	1.01
CO	15.38
NO _x	18.31

HAP's	Potential To Emit (tons/year)
Hexane	less than 10
Formaldehyde	less than 10
TOTAL	less than 25

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3.
- (c) Fugitive Emissions
Since there are applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are counted toward determination of PSD and Emission Offset applicability. This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2.

County Attainment Status

The source is located in Cass County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Cass County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Cass County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) Fugitive Emissions
Since there are applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are counted toward determination of PSD and Emission Offset applicability. This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2.

Source Status

Existing Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	less than 250
PM10	less than 250
SO ₂	less than 250
VOC	less than 250
CO	less than 250
NO _x	less than 250

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on information from CP 017-8604-00017, issued on June 19, 1998.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)
Proposed Modification*	141.55	54.07	0.0	0.0	0.0	0.0
PSD Threshold Level	250	250	250	250	250	250

* The AP-42 emission factors used to calculate emissions are for the operations as a whole, making it difficult to differentiate between emissions from existing equipment and emissions from new equipment. Since the new equipment being added is part of grain receiving, headhouse and internal handling, grain shipping, and grain cleaning, which also includes some existing equipment, emissions from the new equipment was conservatively estimated to be equal to the total emissions from these activities. Emissions from the grain dryers, the temporary grain storage piles, and unpaved roadways were not included since they are existing permitted emission units.

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit MSOP-017-17216-00017, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
 (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
 (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source and the emission calculations in Appendix A of this document.

Note: Pursuant to 326 IAC 2-7-2, Applicability, sources subject to a standard, a limitation, or other requirements under Section 111 of the CAA (New Source Performance Standard (NSPS)), are required to have a Part 70 permit. This source is subject to the NSPS for grain elevators, 40 CFR 60.300 - 60.304, Subpart DD, that was promulgated during the late 1970s. Although this source is covered by this standard, it has potential emissions less than the major source threshold. As stated in a November 15, 1995 guidance memo from the Office of Air Quality Planning and Standards of the US EPA, for this nonmajor source, as indicated in 40 CFR 70.3(b)(1), the EPA has granted a temporary exemption from Title V permitting. The memo also states that the "temporary exemption from Title V permitting is set to expire when the EPA completes a further rulemaking addressing permitting of nonmajor sources. However, it is the EPA's intent that this rulemaking or a separate rulemaking will establish a permanent exemption for grain elevators, feed mills, and other grain handling facilities that are nonmajor sources." Therefore, since this is a nonmajor source subject to the NSPS for grain elevators, 40 CFR 60.300 - 60.304, Subpart DD, it is currently exempt from the requirement to obtain a Title V permit.

Federal Rule Applicability

- (a) The truck and railcar unloading and loading stations and all grain handling operations, which includes headhouse and internal handling and grain cleaning, at this grain elevator are affected facilities subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.300 - 60.304, Subpart DD) since they are located at a grain terminal elevator that has a permanent storage capacity greater than 2.5 million bushels and was constructed after August 3, 1978.

However, none of the provisions of this rule are applicable to the two (2) column grain dryers, per 40 CFR Part 60.302(a), because each of the grain dryers does not have a column plate perforation exceeding 0.094 inches.

- (1) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility except a grain dryer any process emission which:
 - (A) Contains particulate matter in excess of 0.023 g/dscm (ca. 0.01 gr/dscf).
 - (B) Exhibits greater than 0 percent opacity.
- (2) On and after the 60th day of achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere any fugitive emission from:
 - (A) Any individual truck unloading station, railcar unloading station, or railcar loading station, which exhibits greater than 5 percent opacity.
 - (B) Any grain handling operation which exhibits greater than 0 percent opacity.
 - (C) Any truck loading station which exhibits greater than 10 percent opacity.
 - (D) Any barge or ship loading station which exhibits greater than 20 percent opacity.

Controlled emissions from each of the baghouse stacks F1 through F5 at this source are less than 0.01 gr/dscf, therefore, the source is in compliance with the particulate matter emission limit. For detailed compliance calculations, see Appendix A of this document, page 2 of 5.

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source, originally constructed in 1985, is not subject to this rule. Pursuant to CP 017-8604-00017, issued on June 19, 1998, emissions of all pollutants from the existing equipment at the source at that time and the new equipment added under that permit were less than the PSD major source threshold of 250 tons per year. Therefore, this was an existing minor PSD source. The potential emissions from the new equipment being added under this MSOP are less than the PSD major modification thresholds as indicated on page 6 of this document. Therefore, this source is not subject to the requirements of this rule.

This source is subject to the NSPS, 40 CFR 60.300 - 60.304, Subpart DD for grain elevators. The allowable particulate matter emissions, pursuant to this rule, from baghouses F1 through F5, controlling particulate matter emissions from grain receiving, headhouse and internal handling, grain shipping, and grain cleaning, are equal to 31.8 tons per year (see Appendix A, page 2 of 5, for detailed calculations). These emissions combined with potential particulate matter emissions from grain drying, the temporary grain storage piles, and unpaved roadways are equal to 172.34 tons per year. Potential emissions of all other regulated pollutants are less than 250 tons per year. Therefore, since the allowable emissions of all regulated pollutants are less than 250 tons per year after application of all federally enforceable emission limits, this source remains a minor PSD source. This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2.

326 IAC 2-6 (Emission Reporting)

This source is located in Cass County and the potential to emit PM₁₀, SO₂, VOC, NO_x, and CO is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

State Rule Applicability - Individual Facilities

326 IAC 1-7 (Stack Height Provisions)

This source is not subject to the requirements of this rule because each stack has actual particulate matter emissions after control of less than 25 tons per year.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of country grain elevator will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

(a) The operations controlled by baghouses F1 through F5, which include receiving Pits #1 through #4, the receiving conveyor serving Pits #1 and #2, the receiving legs serving Pits #1 through #4, the grain cleaning, and the internal handling operations, are not subject to this rule. Pursuant to 326 IAC 6-3-1(c), this rule shall not apply if a particulate matter limitation established in 326 IAC 2-2, 326 IAC 2-3, 326 IAC 6-1, 326 IAC 11, 326 IAC 12 (NSPS), or 326 IAC 20 (NESHAP) is more stringent than the particulate limitation established in this rule. The above listed operations are subject to the New Source Performance Standard (NSPS), 40 CFR 60.300 through 60.304, Subpart DD, which limits particulate matter emissions to 0.01 gr/dscf from each of the baghouse stacks. This emission limitation is equivalent to the following emission rates:

- (1) 2.14 pounds per hour from baghouse F1 based on an exhaust rate of 25,000 acfm and an exhaust temperature of 68 degrees Fahrenheit.
- (2) 1.89 pounds per hour from baghouse F2 based on an exhaust rate of 22,000 acfm and an exhaust temperature of 68 degrees Fahrenheit.
- (3) 2.31 pounds per hour from baghouse F3 based on an exhaust rate of 27,000 acfm and an exhaust temperature of 68 degrees Fahrenheit.
- (4) 0.86 pound per hour from baghouse F4 based on an exhaust rate of 10,000 acfm and an exhaust temperature of 68 degrees Fahrenheit.
- (5) 0.06 pound per hour from baghouse F5 based on an exhaust rate of 700 acfm and an exhaust temperature of 68 degrees Fahrenheit.

Since these emission limits are more stringent than the emission limits pursuant to 326 IAC 6-3-2 for these operations, this rule does not apply.

(b) Pursuant to 326 IAC 6-3-2, the particulate emissions from each of the emission units listed below shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Emission Unit	Process Weight Rate (tons per hour)	Allowable Particulate Emissions (lb/hr)	Potential Emissions (lb/hr)*	Controlled Emissions (lb/hr)**	In Compliance?
Grain Receiving					
Rail pit and screw auger reclaim system	145	55.09	15.59	0.16	yes
Truck loadout (located over Pit No. 3)	203	58.67	21.82	0.22	yes
Headhouse and Internal Handling					
Nine (9) belts serving the steel bins	580 each	70.75 each	35.38 each	35.38 each	yes
One (1) wet leg serving Dryers #1 and #2	290	62.62	17.69	17.69	yes
Grain Drying					
Dryer #1	116	52.78	25.52	25.52	yes
Dryer #2	116	52.78	25.52	25.52	yes

* For purposes of determining compliance with this rule, potential emissions were calculated using the maximum process weight rates for each unit and the PM emission factors, in lb/ton from US EPA's AP-42, Section 9.9.1, Table 9.9.1-1. These calculations do not represent the PTE of the source, which is based on the maximum grain throughput to the source, calculated using guidance from US EPA.

** Controlled emissions for the grain receiving operations were calculated using the control efficiency of baghouse F3 which controls internal handling including shipping and receiving legs, reclaim, transfer and shipping conveyors.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This rule applies to sources of fugitive particulate matter emissions, located anywhere in the state, requiring a permit under 326 IAC 2, which has not received all the necessary preconstruction approvals before December 13, 1985. This source is not subject to the requirements of this rule because the grain elevator was originally permitted in January, 1985. Therefore, since the source received the necessary preconstruction approvals before December 13, 1985, it is not subject to this rule.

Testing Requirements

Testing requirements for the five (5) baghouses F1 through F5 are as follows:

- (a) Within 60 days after achieving the maximum production rate at which the affected facilities will be operated, but not later than 180 days after initial startup, the Permittee shall determine compliance with the particulate matter standards in 40 CFR 60.302, Subpart DD, as follows:
 - (1) Method 5 shall be used to determine the particulate matter concentration and the volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 1.70 dscm (60 dscf). The probe and filter holder shall be operated without heaters.
 - (2) Method 2 shall be used to determine the ventilation volumetric flow rate.

- (3) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.
- (b) The Permittee may use the following as alternatives to the reference methods and procedures specified above:
 - (1) For Method 5, Method 17 may be used.

There are no applicable testing requirements for the two (2) column grain dryers.

Conclusion

The construction and operation of this country grain elevator shall be subject to the conditions of the attached proposed New Source Construction and Minor Source Operating Permit 017-17216-00017.

Appendix A: Emissions Calculations

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Grain Elevator Country Elevator-Small

Company Name: ADM Grain Company - Logansport Terminal
Address City IN Zip: 2626 South 275 West, Logansport, Indiana 46947
Minor Source Operating Permit No.: 017-17216
Plt ID: 017-00017
Reviewer: Trish Earls/EVP
Date: April 30, 2003

	<u>Bushels</u>	<u>Tons</u>
Annual Maximum Throughput	25,000,000	725,000
Temporary Storage Pile Capacity	5,200,000	150,800

Process	Pollutant	Emission Factor (lb/ton)	Throughput (tons/yr)	Potential Emissions (tons/yr)	Control Efficiency %	Controlled Emissions (tons/yr)
Grain Receiving*	PM	0.1075	725,000	38.97	99.0%	0.39
Worst case = Truck	PM-10	0.0334	725,000	12.11	99.0%	0.12
Headhouse and Internal Handling**	PM	0.061	1,450,000	44.23	99.0%	0.44
	PM-10	0.034	1,450,000	24.65	99.0%	0.25
Rail or Truck Shipping	PM	0.086	725,000	31.18	90.0%	3.12
Worst case = Truck	PM-10	0.029	725,000	10.51	90.0%	1.05
Grain Drying	PM	0.22	725,000	79.75	0.0%	79.75
	PM-10	0.055	725,000	19.94	0.0%	19.94
Natural gas Combustion in Grain Dryers (see pages 2 and 3 for detailed calculations)	PM			0.35	0.0%	0.35
	PM-10			1.39	0.0%	1.39
	SO2			0.11	0.0%	0.11
	NOx			18.31	0.0%	18.31
	VOC			1.01	0.0%	1.01
	CO			15.38	0.0%	15.38
Grain Cleaning	PM	0.075	725,000	27.19	99.0%	0.27
	PM-10	0.019	725,000	6.80	99.0%	0.07
Temporary Grain Storage Piles						
Pile Conveying	PM	0.061	150,800	4.60	0.0%	4.60
	PM-10	0.034	150,800	2.56	0.0%	2.56
Pile Loading	PM	0.035	150,800	2.64	0.0%	2.64
	PM-10	0.0078	150,800	0.59	0.0%	0.59
Total Non-fugitive Emissions				PM		91.56
				PM-10		25.97
				SO2		0.11
				NOx		18.31
				VOC		1.01
				CO		15.38
Unpaved Roadways - Fugitive	PM			53.55	50.0%	26.775
	PM-10			11.89	50.0%	5.95
Total Emissions				PM		118.33
				PM-10		31.91
				SO2		0.11
				NOx		18.31
				VOC		1.01
				CO		15.38

Emission Factors from US EPA's AP-42, Section 9.9.1, Table 9.9.1-1, April, 2003.

The maximum grain throughput of this source was calculated using the Guidance Memo from US EPA's Office of Air Quality Planning and Standards, dated November 14, 1995, for calculating PTE for country grain elevators. It is the maximum grain throughput of the source during the previous 5 years multiplied by an adjustment factor of 1.2.

* PM and PM10 emission factors for grain receiving are the weighted average emission factors based on 50% of grain received by straight trucks and 50% of grain received by hopper bottom trucks as a worst case scenario using the methodology from US EPA's AP-42, Section 9.9.1, page 9.9.1-19, April 2003.

**Throughput for Internal Handling is based on a conservative estimate of 2 times the grain throughput since the grain is typically handled more than once.

Appendix A: Emissions Calculations
Grain Elevator
Country Elevator-Small

Page 2 of 5 TSD App A

Company Name: ADM Grain Company - Logansport Terminal
Address City IN Zip: 2626 South 275 West, Logansport, Indiana 46947
Minor Source Operating Permit No.: 017-17216
Plt ID: 017-00017
Reviewer: Trish Earls/EVP
Date: April 30, 2003

40 CFR Part 60.302, Subpart DD (Standards of Performance for Grain Elevators) Compliance Calculations:

The following calculations determine compliance with NSPS, which limits stack emissions from affected facilities at a grain elevator to 0.01 gr/dscf:

Baghouse F1 Controlling Receiving Pits #1 and #2 and Receiving Conveyor

Emissions include receiving emissions only.

$\frac{0.39 \text{ ton/yr}^*}{525600 \text{ min/yr}^*}$	$\frac{2000 \text{ lb/ton}^*}{25000 \text{ dscf/min}}$	$7000 \text{ gr/lb} =$	0.0004 gr/dscf	(will comply)
Allowable particulate emissions under NSPS equate to		9.39 tons per year.	2.14 lbs/hr	

Note:

$$\begin{aligned} \text{SCFM} &= 25000 \text{ acfm} * (460 + 68) / (460 + 68) \\ &= 25000 \text{ scfm} \end{aligned}$$

Baghouse F2 Controlling Receiving Pits #1 and #2 and Receiving Conveyor

Emissions include receiving emissions only.

$\frac{0.39 \text{ ton/yr}^*}{525600 \text{ min/yr}^*}$	$\frac{2000 \text{ lb/ton}^*}{22000 \text{ dscf/min}}$	$7000 \text{ gr/lb} =$	0.0005 gr/dscf	(will comply)
Allowable particulate emissions under NSPS equate to		8.26 tons per year.	1.89 lbs/hr	

Note:

$$\begin{aligned} \text{SCFM} &= 22000 \text{ acfm} * (460 + 68) / (460 + 68) \\ &= 22000 \text{ scfm} \end{aligned}$$

Baghouse F3 Controlling Internal Handling, Shipping and Receiving Legs, Reclaim, Transfer, and Shipping Conveyors

Emissions include receiving, internal handling, grain shipping, and grain cleaning.

$\frac{4.22 \text{ ton/yr}^*}{525600 \text{ min/yr}^*}$	$\frac{2000 \text{ lb/ton}^*}{27000 \text{ dscf/min}}$	$7000 \text{ gr/lb} =$	0.0042 gr/dscf	(will comply)
Allowable particulate emissions under NSPS equate to		10.14 tons per year.	2.31 lbs/hr	

Note:

$$\begin{aligned} \text{SCFM} &= 27000 \text{ acfm} * (460 + 68) / (460 + 68) \\ &= 27000 \text{ scfm} \end{aligned}$$

Baghouse F4 Controlling Steel Bin Handling

Emissions include internal handling emissions only.

$\frac{0.44 \text{ ton/yr}^*}{525600 \text{ min/yr}^*}$	$\frac{2000 \text{ lb/ton}^*}{10000 \text{ dscf/min}}$	$7000 \text{ gr/lb} =$	0.0012 gr/dscf	(will comply)
Allowable particulate emissions under NSPS equate to		3.75 tons per year.	0.86 lbs/hr	

Note:

$$\begin{aligned} \text{SCFM} &= 10000 \text{ acfm} * (460 + 68) / (460 + 68) \\ &= 10000 \text{ scfm} \end{aligned}$$

Baghouse F5 Controlling Baghouses F2 and F3

Emissions include emissions from baghouses F2 and F3 included above and a 99% control efficiency for baghouse F5.

$\frac{0.05 \text{ ton/yr}^*}{525600 \text{ min/yr}^*}$	$\frac{2000 \text{ lb/ton}^*}{700 \text{ dscf/min}}$	$7000 \text{ gr/lb} =$	0.0018 gr/dscf	(will comply)
Allowable particulate emissions under NSPS equate to		0.26 tons per year.	0.06 lbs/hr	

Note:

$$\begin{aligned} \text{SCFM} &= 700 \text{ acfm} * (460 + 68) / (460 + 68) \\ &= 700 \text{ scfm} \end{aligned}$$

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Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: ADM Grain Company - Logansport Terminal
Address City IN Zip: 2626 South 275 West, Logansport, Indiana 46947
Minor Source Operating Permit No.: 017-17216
Pit ID: 017-00017
Reviewer: Trish Earls/EVP
Date: April 30, 2003

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

41.8

366.2

Heat input capacity includes two (2) natural gas-fired grain dryers each rated at 20.9 MMBtu/hr.

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.35	1.39	0.11	18.31	1.01	15.38

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 4 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Page 4 of 5 TSD App A

Company Name: ADM Grain Company - Logansport Terminal
Address City IN Zip: 2626 South 275 West, Logansport, Indiana 46947
Minor Source Operating Permit No.: 017-17216
Pit ID: 017-00017
Reviewer: Trish Earls/EVP
Date: April 30, 2003

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.845E-04	2.197E-04	1.373E-02	3.296E-01	6.225E-04

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03	Total
Potential Emission in tons/yr	9.154E-05	2.014E-04	2.563E-04	6.957E-05	3.845E-04	0.35

Methodology is the same as page 3.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Grain Elevator
Country Elevator-Small

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Company Name: ADM Grain Company - Logansport Terminal
Address City IN Zip: 2626 South 275 West, Logansport, Indiana 46947
Minor Source Operating Permit No.: 017-17216
Pit ID: 017-00017
Reviewer: Trish Earls/EVP
Date: April 30, 2003

The following calculations determine the amount of emissions created by vehicle traffic on unpaved roads, based on 8,760 hours of use and USEPA's AP-42, 5th Edition, Section 13.2.2.2.

I. Heavy Duty Diesel - Large Truck

1.59 trip/hr x
0.125 mile/trip x
2 (round trip) x
8,760 hr/yr = 3482.1 miles per year

$$E_f = k \cdot \left[\frac{(s/12)^{0.8} \cdot [(W/3)^b]}{(M/0.2)^c} \cdot [(365-p)/365] \cdot (S/15) \right]$$

= 2.59 lb PM-10/mile
= 12.34 lb PM/mile

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s = 4.8 mean % silt content of unpaved roads
b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W = 26 tons average vehicle weight
M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)
S = 20.0 mph speed limit
p = 125.0 number of days with at least 0.01 in. of precipitation per year

$$\text{PM-10: } \frac{2.59 \text{ lb/mi} \times 3482.1 \text{ mi/yr}}{2000 \text{ lb/ton}} = 4.51 \text{ tons/yr}$$

$$\text{PM: } \frac{12.34 \text{ lb/mi} \times 3482.1 \text{ mi/yr}}{2000 \text{ lb/ton}} = 21.49 \text{ tons/yr}$$

II. Heavy Duty Diesel - Small Truck

3.17 trip/hr x
0.125 mile/trip x
2 (round trip) x
8,760 hr/yr = 6942.3 miles per year

$$E_f = k \cdot \left[\frac{(s/12)^{0.8} \cdot [(W/3)^b]}{(M/0.2)^c} \cdot [(365-p)/365] \cdot (S/15) \right]$$

= 1.91 lb PM-10/mile
= 8.42 lb PM/mile

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s = 4.8 mean % silt content of unpaved roads
b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W = 12 tons average vehicle weight
M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)
S = 20.0 mph speed limit
p = 125.0 number of days with at least 0.01 in. of precipitation per year

$$\text{PM-10: } \frac{1.91 \text{ lb/mi} \times 6942.3 \text{ mi/yr}}{2000 \text{ lb/ton}} = 6.62 \text{ tons/yr}$$

$$\text{PM: } \frac{8.42 \text{ lb/mi} \times 6942.3 \text{ mi/yr}}{2000 \text{ lb/ton}} = 29.24 \text{ tons/yr}$$

III. Light Duty gas car/truck used by customers and employees

0.75 trip/hr x
0.125 mile/trip x
2 (round trip) x
8,760 hr/yr = 1642.5 miles per year

$$E_f = k \cdot \left[\frac{(s/12)^{0.8} \cdot [(W/3)^b]}{(M/0.2)^c} \cdot [(365-p)/365] \cdot (S/15) \right]$$

= 0.93 lb PM-10/mile
= 3.44 lb PM/mile

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s = 4.8 mean % silt content of unpaved roads
b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W = 2 tons average vehicle weight
M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)
S = 20.0 mph speed limit
p = 125.0 number of days with at least 0.01 in. of precipitation per year

$$\text{PM-10: } \frac{0.93 \text{ lb/mi} \times 1642.5 \text{ mi/yr}}{2000 \text{ lb/ton}} = 0.76 \text{ tons/yr}$$

$$\text{PM: } \frac{3.44 \text{ lb/mi} \times 1642.5 \text{ mi/yr}}{2000 \text{ lb/ton}} = 2.82 \text{ tons/yr}$$

Total PM Emissions From Unpaved Roads = 53.55 tons/yr

Total PM-10 Emissions From Unpaved Roads = 11.89 tons/yr